

# Jie Bao

## PERSONAL INFORMATION

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ADDRESS: 7950 rue Rostand, Brossard, J4X 2R6, Quebec, Canada  
PHONE: (438) 995-4178  
WEBSITE/ EMAIL: [jiebao.ca](http://jiebao.ca)/ [jiebao995@gmail.com](mailto:jiebao995@gmail.com)

## EDUCATION

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FALL 2019 - SUMMER 2021	<b>Concordia University</b> , Montreal, Quebec, Canada <i>Master of Applied Science, Mechanical Engineering</i> , GPA: 3.98/4.3 Thesis: Machine Learning Techniques for Turbulence Modeling Supervisor: Dr. Brian Vermeire  Applied Machine Learning - COMP551 (McGill Campus IUT), <i>Grade: A</i>
FALL 2015 - WINTER 2019	<b>Concordia University</b> , Montreal, Quebec, Canada <i>Bachelor of Engineering, Aerospace Engineering</i> , GPA: 3.25/4.3
WINTER 2018	<b>Embry-Riddle Aeronautical University</b> , Daytona Beach, Florida <i>Exchange Semester Abroad, Engineering</i> GPA: 3.7/4.0

## COMPUTER SKILLS

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PYTHON, TENSORFLOW, MATLAB, TABLEAU, LINUX, BASH/SHELL, MS OFFICE,  $\text{\LaTeX}$ , CATIA, ANSYS

## WORK EXPERIENCE

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CURRENT	<b>Graduate Student Researcher</b> , <a href="#">COMPUTATIONAL AEROSPACE LAB</a> <i>Turbulence Modeling Technique using Machine Learning Techniques</i>  Performed feature quality analysis using algorithm such as Relief. Data cleaning, acquisition and analysis using Matlab and Python. Created an end-to-end ML training pipeline for turbulent production and dissipation values. Achieved over 90% $R^2$ accuracy. Currently, working on analysing the NACA 0012 airfoil. <a href="#">Check out the progress on Github and my other works.</a>
SUMMER 2018	<b>Intern in Structure Design &amp; Standard</b> , BOMBARDIER AEROSPACE <i>Cabin Window Trade Study on Next-Gen Business Jet</i>  Conduct a cabin window trade study with respect to § 25.807 for future business jet program, perform cost & weight estimation for Product Planning, benchmark with competition in the same aircraft segment, proposed cabin window position, installation type, and size recommendation.
SUMMER 2017	<b>R&amp;D Intern in Advanced Systems</b> , BOMBARDIER AEROSPACE <i>Hydraulic System Modeling using MBSE</i>  modeling of the GLOBAL 7500 hydraulic system using the CAPELLA software (operational architecture down to physical architecture). Gained a comprehensive understanding of the hydraulic system. Improved system engineering MBSE approach for aircraft design Developed modeling usage standards. Presented to subject-matter experts during bi-weekly workshops.

## TEACHING ASSISTANT

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CURRENT	<b>AERO 490 - Final Year Capstone Aerospace Engineering Design Project</b> <i>Supervised by Dr. Jonathan Liscouët</i>  Supervise the conceptual design of a medical organs transporting drone. Motivating the student to think critically and provide guidelines on how to solve technical questions. Help online teaching transition.
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## ACADEMIC PROJECT

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2018-2019	<b>AERO 490 - Final Year Capstone Aerospace Engineering Design Project</b> <i>Supervised by Dr. Catharine Marsden</i>  Conceptual design of an arctic transport aircraft. Market analysis and develop business case. Perform trade studies and constraint diagram. Aircraft static & dynamic stability compliance for airworthiness.
FALL 2017	<b>AERO 390 - Preliminary Rudder System Design</b> <i>Supervised by Dr. Susan Liscouët-Hanke</i>  Perform the safety and reliability assessment - ARP 4761. Define Aircraft and System level requirements using interdisciplinary approach - RFLP method. Use 3DEXperience software to track the requirements and to model the rudder system physical level.

## ENGINEERING COMPETITION

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FALL 2018	<b>Engineering and Computer Science Association Competitions Week</b> <i>Senior Design - Concordia University, Montreal, QC</i>  Designed and assembled a remotely controlled car using an Arduino board and other provided material. Awarded 3 <sup>rd</sup> position.
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## CERTIFICATE

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MAY 2016	Aircraft Familiarization Training (312h) at L'École National d'Aérotechnique
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## LANGUAGES

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FRENCH:	Fluent
ENGLISH:	Fluent
CHINESE (MANDARIN):	Fluent
GERMAN:	Basic Knowledge

## INTERESTS AND ACTIVITIES

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World History, Current World Affairs, Avid Tennis player, Running, Programming